

Listing of Claims:

1. (Currently Amended) An apparatus for periodically fixing a price of a currency/stock/commodity, the apparatus comprising computer and communications apparatus including:

means for electronically receiving successive price samples of said currency/stock/commodity from a plurality of sources over a period of time;

means for recording the received sample values so as to form an historical record of price samples from each source;

means for filtering the received price sample values automatically by reference to said historical record and predetermined validation criteria so as to categorise certain samples as valid or erroneous anomalous;

means for periodically establishing a fixing period within said period of time and intervening periods outside of said fixing period, and combining the received samples received during said fixing period, periodically while excluding samples categorised as anomalous, the erroneous samples so as to derive a fixed price; and

means for releasing said fixed price to users in response to deriving said fixed price.

2. (Currently Amended) An apparatus according to claim 1 wherein the recording means and filtering means apparatus is are arranged to distinguish between price samples of different contributors within the samples received from a given source.

3. (Currently Amended) An apparatus according to claims 1 wherein the receiving means is arranged to receive from at least one source samples of trading prices paid offered in actual trade orders, in addition to non-binding prices quoted by other contributors.

4. (Currently Amended) An apparatus according to claim 1 wherein the source of trading prices comprises an online trading apparatus, wherein binding buy and sell orders incorporating prices are accepted and ranked by price in respective order lists, compatible buy and sell orders being matched automatically in order of price to conclude a transaction, the receiving means being arranged to receive successive samples of the current best price from each of the buy and sell order lists for use in deriving said fixed price.

5. (Original) An apparatus according to claim 1 wherein the filtering means is arranged to process trading prices and quoted prices each according to different criteria.

6. (Original) An apparatus according to claim 1 wherein the combining means is arranged to apply different processing to the trading prices and the quoted prices, to arrive at said fixed price.

7. (Original) An apparatus according to claim 1 wherein the combining means is further arranged to generate an average of price samples, in which trading prices are weighted higher than quoted prices.

8. (Currently Amended) An apparatus according to claim 1 wherein the combining means further discards disregards information derived from non-binding quoted prices in favour of information derived from trading prices, subject to predetermined validation criteria.

9. (Currently Amended) An apparatus according claim [[1]] 8 wherein said validation criteria is such as to permit substitution by trading price information provided that it is within certain tolerance limits derived from the non-binding quoted prices.

10. (Currently Amended) An apparatus according to claim 1 wherein the filtering means is further arranged to categorise certain samples firstly as either valid or questionable depending on their relation to previous samples, and subsequently to re-categorise questionable samples automatically as valid or erroneous anomalous depending on samples received subsequently in accordance with predetermined criteria.

11. (Original) An apparatus according to claim 1 wherein the filtering means is further arranged to distinguish between price samples coming from various specific contributors, said re-categorisation being performed in a manner dependent on whether samples received subsequently are from the same contributor as the questionable sample or a different contributor.

12. (Original) An apparatus according claim 1 wherein the filtering means further include human intervention means for displaying questionable samples and surrounding data and for permitting human intervention to determine use or non-use of the questionable samples.

13. (Original) An apparatus according to claim 1 wherein the apparatus further includes means for defining finite fixing periods and intervening periods, each fixing period arising at a predetermined time of day.

14. (Original) An apparatus according to claim 13 wherein each fixing period extends one minute either side of the hour, throughout the business day.

15. (Currently Amended) An apparatus according to claim [[1]] 13 wherein said filtering means is arranged to operate throughout said fixing periods and intervening periods, samples received during said intervening periods serving as a reference for the categorisation of samples received during said fixing period.

16. (Original) An apparatus according to claim 1 wherein both exchange rate quotes and bank quotes are captured on a round-the-clock (RTC) basis, by sampling (snapping) the data at regular intervals.

17. (Currently Amended) An apparatus according to claim 1 wherein only those samples (snaps) that fall within a fix period are used to calculate a fixed spot price, ~~the~~ while other samples are used to monitor the behaviour of the market, so that anomalies which may impact the next fix can be identified and analysed ahead of time.

18-24. (Cancelled)

25. (Currently Amended) A method of trading in a currency, stock or commodity by ~~between~~ a dealing party, ~~a plurality of clients and trusted third party independent of the dealing party~~ the trusted third party periodically fixing and a price for said currency/stock/commodity at a predetermined fixing time and according to predetermined criteria, the method comprising:

(a) the dealing party accepting from a plurality of each clients prior to said fixing time binding orders to trade quantities of said currency/stock/commodity currency, stock or commodity, wherein the prices of said trades at a price are not fixed at the time of accepting the order but being defined by reference to a the reference price to be fixed at a specified fixing time by said a trusted third party, as yet unknown wherein the reference price is fixed by said trusted

third party applying a predetermined methodology to price samples received from competing sources, and wherein the applied methodology is independent of any position that is held by the dealing party in said currency, stock or commodity;

(b) the dealing party receiving from said trusted third party after said fixing time a record of the reference price fixed at the fixing time; and

(c) the dealing party settling each of the accepted the received orders with the respective each client clients in accordance with said price prices defined by reference to the fixed reference price.

26. (Original) A method according to claim 25 wherein the trusted third party fixes said price at a series of predetermined fixing times throughout the day, the steps (a) to (c) being repeated in relation to each fixing time.

27. (Currently Amended) A method according to claim 25 where for step (a), orders may be are accepted during a predetermined period ending in advance of the or each fixing time period, and orders received after the end of said predetermined period being accepted with reference to a later fixing time period.

28. (Currently Amended) A method according to claim 25 wherein the method further comprises:

(d) the dealing party offsetting a plurality of buy and sell orders received from clients prior to the or each fixing time period to determine a balance of said currency/stock/commodity traded with reference to the fixed price;

(e) the dealing party dealing in an open market to reconcile the balance, the volume of such trading being substantially less than the aggregate of the buy and sell orders accepted.

29. (Currently Amended) A method according to claim 25 wherein the trusted third party ~~applies a method or apparatus according to the first aspect of the invention, in order to fix said price:~~

- (a) receives successive price samples of said currency/stock/commodity from a plurality of sources over a period of time;
- (b) records the received sample values so as to form an historical record of price samples from each source;
- (c) filters the received price sample values automatically by reference to said historical record and predetermined validation criteria so as to categorise certain samples as valid or anomalous;
- (d) establishes a fixing period within said period of time and intervening periods outside of said fixing period, and combines the samples received during said fixing period, excluding samples categorised as anomalous, so as to derive a fixed price; and
- (e) releases said fixed price to users.

30. (New) A method according to claim 25 wherein the reference price is a mid rate and the prices in buy and sell orders accepted by said dealing party are defined in terms of their spread either side of the reference price.

31. (New) A method according to claim 30 wherein said dealing party accepts orders from different clients with different spreads.

32. (New) A method according to claim 25 wherein at least one other dealing party accepts offers from clients for which the prices are defined by reference to the same reference price, but with different spreads.

33. (New) A method according to claim 25 wherein said currency, stock or commodity is a currency.

34. (New) A method according to claim 25 wherein said methodology refers to samples of quote data to verify samples of trade data to be used.

35. (New) A method according to claim 25 wherein said methodology includes sampling traded prices from a electronic trading system, the transactions between clients and dealing party being conducted outside that trading system.

36. (New) A method according to claim 25 wherein said methodology includes sampling traded prices from at least one electronic auction market trading system to which the dealing party has access, said balance being traded in said trading system.

37. (New) An apparatus according to claim 1 wherein said stock, currency or commodity is a currency.

38. (New) An computer implemented method of periodically fixing a price of a currency/stock/commodity to be transmitted to users to facilitate the users to trade using the fixed prices, comprising the steps of:

receiving successive price samples of said currency/stock/commodity from a plurality of sources over a period of time comprising a fixing period within said period of time,

and intervening periods outside of said fixing period;

determining at least one historical record for the received price samples;

assigning said price samples into price samples received within said fixing period and price samples received within said intervening periods;

filtering the received price samples automatically with the at least one historical record by comparing said price samples received within said fixing period with predetermined validation criteria to determine whether said price samples received within said fixing period are valid or anomalous;

combining said received price samples within said fixing period while excluding the anomalous samples and determining a fixed price responsive thereto; and

transmitting said fixed price to the users to facilitate said users to trade using said fixed prices.

39. (New) A computer implemented method of real time acquisition and evaluation of trading data, to be transmitted to users to facilitate the users to trade using the trading data, comprising the steps of:

receiving successive data samples from a plurality of sources over a period of time comprising a fixing period within said period of time, and intervening periods outside of said fixing period;

determining at least one historical record for the received data samples;

assigning said data samples at least one indicator value indicating a level of confidence in said acquired data samples according to predetermined parameters and said historical record;

filtering the received data samples based on the indicator value associated with each of the data samples and removing the received data samples having the indicator value greater than a defined tolerance level;

determining a fixed price using said filtered data samples;

transmitting said fixed price to the users to facilitate said users to trade using said fixed prices.

40. (New) A method according to one of claims 38 or 39, further comprising the step of determining the fixed prices using at least one agreed valuation methodology based on predetermined criteria defined by a contractual relationship between said dealing party and said plurality of clients.

41. (New) A method according to claim 40, further comprising the step of continuously validating said received samples.

42. (New) A method according to claim 41, wherein said continuously validating step further comprises the step of continuously validating said received samples on an on-going basis, and not only during the fixing period, thereby minimizing said filtering step at the time of fixing, and transmitting the fixed rate to the users responsive to same.

43. (New) A method according to one of claims 38 or 39, further comprising the step of synchronizing a system clock with an external time source used by said method when determining the fixed price to avoid drift.

44. (New) A method according to one of claims 38 or 39, further comprising the step of at least one of: calculating percent movement from a previous fixing period, calculating

percent movement from multiple previously fixing periods, comparing with a standard deviation tolerance over a plurality of fixing periods, calculating a bid/ask price spread, and determining whether a bid rate is smaller than an asked rate.

45. (New) A method according to one of claims 38 or 39, further comprising the step of removing the received sample responsive to at least one of the following: when the received sample is not in a correct format, when the received sample comprises a base currency that is neither USD nor EUR, when the received sample comprises a variable currency that does not have a known 3-letter ISO code, and when the received sample comprises a variable currency indicative of a calculated currency.

46. (New) A method according to one of claims 38 or 39, further comprising the step of generating an average of price samples, in which trading prices are weighted differently than quoted prices, and said determining step further comprises determining the fixed price using said filtered data samples and the average of price sample.

47. (New) A method according to one of claims 38 or 39, wherein said receiving step further comprises at least one of the steps of:

capturing first rates for bid and asked quotes against the USD for a first plurality of currencies;

capturing second rates for bid and asked quotes against the EUR for a second plurality of currencies having primary quotations against the EUR; and

capturing bid and asked trading rates, and

wherein said determining step further comprises the step of determining the fixed

price using said filtered data samples including at least one of the first rates, the second rates and the bid and asked trading rates.

48. (New) A method according to one of claims 38 or 39, further comprising the step of determining the fixed prices by amalgamating a number of trades for trading at a fixed rate.

49. (New) A method according to one of claims 38 or 39, further comprising the step of determining the fixed prices by amalgamating a number of trades for trading at a fixed rate.

50. (New) A method according to one of claims 38 or 39, further comprising the step of enabling the offering of different spreads by different banks simultaneously using a number of different currencies, according to at least one of order size and identity of the user.

51. (New) A method according to one of claims 38 or 39, further comprising the step of determining parallel version of rates for verification of currency rates including rates at which banks are actually trading predetermined currencies.

52. (New) A method according to one of claims 38 or 39, further comprising the step of validating the received samples comprising captured rates, said validating comprising the steps of:

calculating first percentage movement from previous data capture;

calculating second percentage movement from n-th previous data capture;

comparing the first and second percentage with a standard deviation tolerance over a predetermined number of the data capture;

calculating a percentage deviation and comparing the percentage deviation with a first predetermined threshold;

calculating a bid/asked price spread and comparing the bid/ask spread with a second predetermined threshold; and

determining whether the bid rate is smaller than an asked rate.

53. (New) A method according to one of claims 38 or 39, wherein said receiving step further comprises the step of capturing quote and trade samples, each comprising corresponding base and variable currencies, and wherein said determining step further comprises the step of determining the fixed price using quote and trade samples.

54. (New) An apparatus for periodically fixing a price of a currency/stock/commodity, the apparatus comprising computer and communications apparatus arranged automatically:

- (i) to receive from at least one electronic trading system samples of trading prices corresponding to an asset;
- (ii) to receive from at least one other information source non-binding quote information for the same asset;
- (iii) to validate the samples of trading prices and the non-binding quote information for the asset according to predetermined criteria including criteria using previous quote samples as a reference;
- (iv) to determine by further predetermined criteria if there are sufficient validated trading price samples received during a fixing period to derive from said trading price samples a price fix for the currency/stock/commodity; and
- (v) to calculate the price fix for the currency/stock/commodity from one of: the samples of trading prices if a sufficient number of trading price samples has been received

during the fixing period and the non-binding quote information if the sufficient number of trading price samples has not been received during the fixing period.

55. (New) An apparatus according to claim 54 arranged to fix prices for several currencies/stocks/commodities in parallel, wherein said criteria for validating trading prices include criteria generic to the currencies/stocks/commodities and criteria tailored to individual currencies/stocks/commodities.

56. (New) An apparatus according to claim 54, wherein the source of trading prices comprises an online trading apparatus, wherein binding buy and sell orders incorporating prices are accepted and ranked by price in respective order lists, compatible buy and sell orders being matched automatically in order of price to conclude a transaction, the receiving means being arranged to receive successive samples of the current best price from each of the buy and sell order lists for use in deriving said fixed price.

57. (New) An apparatus according to claim 56 wherein said fixed price is a mid price calculated as the mid value between a median of the sampled buy order prices and a median of the sampled sell order prices.

58. (New) An apparatus according to claim 54 wherein the filtering means is arranged to process trading prices and quoted prices each according to different criteria.

59. (New) An apparatus according to claim 54 wherein the combining means is arranged to apply different processing to the trading prices and the quoted prices, to arrive at said fixed price.

60. (New) An apparatus according to claim 54 wherein the combining means is further arranged to generate an average of price samples, in which trading prices are weighted higher than quoted prices.

61. (New) An apparatus according to claim 1 wherein the receiving means is arranged to receive at least one stream of price samples, the at least one stream including samples for said currency/stock/commodity from a plurality of contributors and with varying frequency, while the recording means takes a latest sample in the at least one stream at regular intervals to create a single historical record containing price samples taken from the at least one stream with a fixed frequency.

62. (New) An apparatus according to claim 1 wherein the receiving means is arranged to receive a first stream of trading prices in actual trade orders and a second stream of non-binding prices quoted by other contributors, each stream containing price samples for said currency/stock/commodity from a plurality of contributors and with varying frequency, while the recording means is arranged to create for each stream a respective historical record, each historical record containing price samples taken from one of the streams with a fixed frequency.